A Translational Model of Research-Practice Integration

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We propose a four-level, recursive Research-Practice Integration framework as a heuristic to (a) integrate and reflect on the articles in this Special Section as contributing to a bidirectional bridge between research and practice, and (b) consider additional opportunities to address the research–practice gap. Level 1 addresses Treatment Validation studies and includes an article by Lochman and colleagues concerning the programmatic adaptation, implementation, and dissemination of the empirically supported Coping Power treatment program for youth aggression. Level 2 translation, Training in Evidence-Based Practice, includes a paper by Hershenberg, Drabick, and Vivian, which focuses on the critical role that predoctoral training plays in bridging the research–practice gap. Level 3 addresses the Assessment of Clinical Utility and Feedback to Research aspects of translation. The articles by Lambert and Youn, Kraus, and Castonguay illustrate the use of commercial outcome packages that enable psychotherapists to integrate ongoing client assessment, thus enhancing the effectiveness of treatment implementation and providing data that can be fed back to researchers. Lastly, Level 4 translation, the Cross-Level Integrative Research and Communication, concerns research efforts that integrate data from clinical practice and all other levels of translation, as well as communication efforts among all stakeholders, such as researchers, psychotherapists, and clients. Using a two-chair technique as a framework for his discussion, Wolfe’s article depicts the struggle inherent in research–practice integration efforts and proposes a rapprochement that highlights advancements in the field.

Keywords: translational model, science-practice gap, treatment validation, psychotherapy training, evidence-based practice, assessment of clinical utility, psychotherapy research

The gap between psychological research and clinical practice has fueled intense debates, as well as fruitful dialogues for more than half of the past century (Baker, McFall, & Shoham, 2009; Barlow, 1981; Beutler, William, Wakefield, & Entwistle, 1995; Castonguay & Goldfried, 1994; Kanfer, 1990; Norcross, Beutler, & Levant, 2006; Stricker & Trierweiler, 2006; Strupp, 1981). The good news is that these discussions have not been in vain. In fact, the extant literature enables us to firmly reject both Eysenck’s (1952) initial conclusion that research did not support the efficacy of psychotherapy and Luborsky’s (1969) pessimistic prediction that research could not influence clinical practice. Indeed, the ever-growing body of literature indicates that psychotherapy can be efficacious in alleviating human suffering, and science has played and will continue to play a pivotal role in its successful implementation.

Although the integration of science and practice still has a long way to go (Castonguay, 2011; Kazdin, 2008), further demands for accountability, translational efforts, more rapid and varied approaches to assessment and intervention delivery, and clinical research all highlight the importance of efforts to enhance the research–practice interface. Nevertheless, there is no consensus about how to decrease the research–practice gap. It is challenging to identify and implement practical strategies to achieve this end (Teachman et al., 2012, this issue, pp. 97–100), and there is a great divide between more pessimistic (e.g., Baker et al., 2009) and more cautiously optimistic (e.g., Castonguay, 2011; Chorpita & Mueller, 2008; Norcross et al., 2006) views about the state of science–practice integration. However, it is imperative that psychologists find a way to collaborate, given that the rates and global burden of mental health problems remain remarkably high (Kazdin & Blase, 2011; Olfsen & Marcus, 2010), and there have been decreases in the use of psychotherapy interventions compared with psychotropic interventions, despite strong evidence of the effectiveness of psychotherapy interventions (e.g., with depression; Olfsen & Marcus, 2010).
The present article reflects on articles in this Special Section, and considers additional promising opportunities to address the research–practice gap while recognizing remaining challenges. Importantly, each of the papers in the Special Section represents a valuable contribution that can best be understood in relation to the others. Put differently, we view each of the ideas put forth in this section as necessary, but not sufficient, components of the overall efforts needed to reduce the science–practice gap. As such, we integrate the existing series of articles within a novel, overarching Research–Practice Integration (RPI) model to demonstrate how these disparate components can, in tandem, provide a bidirectional and recursive bridge between research and practice.

A Translational Model of RPI

The goal of translational research from a behavioral perspective is to address reciprocal relations among (a) basic cognitive, behavioral, affective, and interpersonal processes associated with psychological problems; and (b) assessment, diagnosis, and interventions for psychological problems (see Heyman & Slep, 2009; National Advisory Mental Health Council Behavioral Science Workgroup, 2000). From a biomedical perspective, the translational continuum emphasizes a trajectory whereby empirical findings from the “bench” are translated into efficacious therapeutic interventions that (a) reach the populations in need (the “bedside”) through effective and expeditious dissemination/adoption strategies, and (b) produce a significant impact on public health (Beutler, 2009; Drolet & Lorenzi, 2011). Our proposed RPI model builds on these frameworks and several existing translational and treatment dissemination models (e.g., Drolet & Lorenzi, 2011; Gotham, 2004; Heyman & Slep, 2009; Rounsaville, Carroll, & Onken, 2001). The RPI model (Figure 1) includes four levels of translation that lead to a multiway bridge between research and practice. Using this model as a foundation, we highlight extant integrative efforts, especially those featured in this Special Section, and suggest further ways to build an interactive bridge between research and practice.

As an overview, broad-based psychological research pertaining to biological, psychological, and social bases of behavior, as well as clinical observations, can lead to empirically testable hypotheses. This research can (a) be exported directly to practice to inform the psychotherapist’s treatment implementation, and (b) lead to the development and evaluation of novel treatment studies, which we highlight in our translational model. Thus, we see Level 1 translation as encompassing Treatment Validation research, such as Stage I Feasibility and “proof of principle” studies, Stage II Efficacy studies (e.g., randomized controlled trials [RCTs]), Stage III Mechanisms of change/process research, and Stage IV Effectiveness and Dissemination studies. Establishing that a therapy is effective in a controlled setting, determining comparable performance in naturalistic settings, and identifying mechanisms of change are central goals of this work (Lochman et al., this issue, pp. 135–142). Notably, we do not assume that the treatment validation stages always follow a single linear sequence, and recognize, for instance, that effectiveness research may precede mechanisms research. Level 2 translation addresses the assimilation and integration of basic and outcome research into clinical training. The goal of this level is to successfully train future scientist–practitioners in evidence-based practice (EBP), because this may be the most efficacious “intervention” (in the long run) to decrease the science–practice gap (Hershenberg, Drabick, & Vivian, this issue, pp. 123–134).

![Figure 1. A translational model of research-practice integration (RPI).](image-url)
Level 3 translation concerns efforts to collect data from clients and psychotherapists to assess the clinical utility and impact of treatments. For example, research that targets the public health impact of therapy, such as studies that evaluate what proportion of the clinical population receives a particular treatment and involve cost-effectiveness analyses, are included here. Further, methods to collect ongoing assessment data in naturalistic treatment settings can improve client outcomes, highlight areas of relative strength for psychotherapists, and provide data that can be used for research (Lambert, this issue, pp. 109–114; Youn, Kraus, & Castonguay, this issue, pp. 115–122).

Last, Level 4 translation concerns empirical efforts that we label Cross-Level Integrative Research and Communication, which include research informed by all other levels of translation, as well as the creation of venues of communication among all stakeholders. Such a translational effort, to and from the clinic and the laboratory, may represent a pathway to help “resolve internal conflicts” of the field (Wolfe, this issue, p. 101). For example, this type of research can be conducted in collaboration with psychotherapists, incorporate data provided by multiple stakeholders (e.g., clients, psychotherapists, client advocacy groups, third-party payers, etc.), and inform subsequent controlled comparison and other outcome studies (e.g., data from Practice Research Networks (PRNs), Training Clinics Research Networks, and managed care environments; Castonguay, 2011).

Level 1 Translation: Treatment Validation Studies

Stage I: Feasibility studies. In addition to informing clinical work directly, psychological research that considers biological, affective, cognitive, interpersonal, and contextual processes that may contribute to, maintain, reduce, or exacerbate psychological difficulties has the potential to inform the design and evaluation of specific interventions. In addition, clinical observations and “proof of principle” studies, which examine the extent to which manipulating a given process can affect change, are often starting points for feasibility studies. For example, proof of principle studies may include single-session interventions that provide preliminary evidence of feasibility (recent work in the cognitive bias modification field is a nice example of this type of research; see Hertel & Mathews, 2011). Results of feasibility studies inform the systematic and controlled evaluation of treatment efficacy in Stage II research. These early efforts may include pilot trials, abbreviated versions of an intervention, development of manuals, training protocols, training of psychotherapists, and development of adherence-monitoring procedures.

Stage II: Efficacy studies. RCTs represent one standard method to evaluate treatment efficacy and have provided the bulk of the data used in the field to identify empirically supported treatments (ESTs; Chambless & Hollon, 1998; see American Psychology Association Division 12’s website detailing research-supported psychological treatments: http://www.psychology.sunysb.edu/eklonsky/-division12/index.html). Indeed, the robust design of RCTs provides numerous advantages in establishing the internal validity of the intervention(s) evaluated (e.g., implementation of the intervention is manipulated, clients are carefully chosen based on diagnostic guidelines, psychotherapists are trained to an established level of competence, adherence to treatment is checked, short-term treatments are applied in a “standard way,” etc.); thus, causality can be inferred (see Crits-Christoph, Wilson, & Hollon, 2005; Weisz, Weersing, & Henggler, 2005). These internally valid interventions can then be subjected to effectiveness evaluations and implemented in community settings. There are numerous trials that test efficacy and validate specific treatment methods (Chambless et al., 2006), and there are many resources to learn more about these studies. For example, we refer the reader to the National Institute for Clinical Excellence (NICE) guidelines (http://www.nice.org.uk), A Guide to Treatments that Work (Nathan & Gorman, 2007), the NIH site on Evidence-Based Behavioral Practice (http://www.ebhp.org), SAMHSA National Registry of Evidence-Based Programs and Practices (http://www.nrepp.samhsa.gov), and the Centre for Clinical Interventions (http://www.cci.health.wa.gov.au/about/index.cfm), to name several.

The internal validity associated with RCTs naturally leads to tradeoffs with external validity (e.g., because of the adoption of exclusion criteria). Other ecological limitations of RCTs include variability in outcomes assessed (e.g., changes in symptomatology, quality of life and/or work productivity), outcomes based on attribution rates that are significantly lower than those of outpatient settings, indices of change that may have limited relevance in clinical practice (e.g., statistical significance vs. clinical significance), and concerns regarding the availability of follow-up data and the effects of the context in which RCTs are implemented (e.g., university or specialized clinic centers, provision of incentives for clients to be in treatment) (see Borkovec & Castonguay, 2006; Duncan, Miller, Wampold, & Hubble, 2010; Goldfried & Wolfe, 1998; Wachtel, 2010; Westen, Novotny, & Thompson-Brenner, 2004; Westen & Bradley, 2005). Thus, effectiveness, implementation, and dissemination studies play a crucial role in extending the usefulness of RCTs.

In addition to standard efficacy and effectiveness research, we also support efforts to identify and evaluate components of ESTs that are (a) common across well-validated treatments (e.g., Chorpita, Daleiden, & Weisz, 2005) and consistent with an EBP approach, and (b) differentially useful based on client values, preferences, and characteristics (Hersen & et al., 2012, this issue). These approaches can help psychotherapists to make informed choices about how to use evidence-based strategies that reflect both nonomothetic (normative, based on research on a given problem area) and idiographic (individualized to a specific client) interventions; permit application of ESTs in a way that allows tailoring based on client-level variables (e.g., consistent with “flexibility within fidelity” [Beidas & Kendall, 2010] and “dynamic sizing” that takes individual differences and client diversity into account [Sue, 2006]); and emphasizes principles of change that cut across therapies (Goldfried, 1982), so the psychotherapist can flexibly adapt the treatment to the ever-changing needs of the client.

Stage III: Mechanisms of change/process research. Another critical component to enhance our use of ESTs is to systematically examine how and for whom these treatments work. Stages III a-e of the RPI model reflect different aspects of research concerning mechanisms of, as well as processes and factors associated with, change. For parsimony, we refer to these types of studies as mechanisms of change research, and we see them as providing systematic methods to identify the essential ingredients of the treatments tested in Level I. Stages I and II. Because mechanism research is already a well-established component of
the bridge from research to practice and has been described in many other outlets (e.g., Kazdin & Nock, 2003), we do not elaborate on examples in this paper beyond underscoring the critical role it plays in this translational model.

**Stage III a: Moderator studies.** The extant literature includes fruitful efforts to understand variability in the outcomes of RCTs (and ensuing ESTs). For example, studies that evaluate moderators of change (e.g., a baseline variable, such as history of childhood abuse, that distinguishes subgroups of individuals who respond differently to a treatment, and/or helps to identify for whom a particular treatment might have differential effects) have been proposed as a top priority for research by National Institute of Mental Health (2008, Strategy 3.4, http://www.nimh.nih.gov/research-funding/research-priorities/strategy-3-4.shtml; Hollon & Ponnniah, 2010; Simon & Perlis, 2010).

**Stage III b: Mediator studies.** Research on mediators of treatment is also pivotal; one example of this research involves evaluating whether changes in clients’ dysfunctional attitudes account for differences in symptom relief between different treatment conditions for chronic depression (Blalock et al., 2008). These types of studies have received considerable attention in the outcome literature (e.g., Garratt, Ingram, Rand, & Sawalani, 2007; Kazdin, 2007) and are helpful for understanding the pathways of change in psychotherapy and translating information emerging from basic and outcome research into information useful for psychotherapists and the clients with whom they work.

**Stages III c: Dismantling studies, III d: Client × Therapist factors/therapeutic relationship, and III e: Integration/Common factors research.** Dismantling research identifies the most active or essential elements of a treatment package (e.g., the role of behavioral activation in the treatment of depression; Dimidjian et al., 2006). Research on therapist–client interaction helps to identify processes and in-session treatment factors that lead to therapeutic change. This type of research may involve evaluation of the impact of therapist (Kim, Wampold, & Bolt, 2006; Wampold & Brown, 2005) or client (Duncan, Miller, & Spark, 2004; Duncan et al., 2010) characteristics, and/or the therapy relationship (Chambless et al., 2006; Owen & Hilsenroth, 2011; Owen, Quirk, Hilsenroth, & Rodolfa, 2012). Finally, research that emphasizes core principles of change, that is, factors that are common across different theoretical orientations and different models of treatment, can further extend the usefulness of RCTs and other controlled research (Castonguay & Beutler, 2006). Taken together, mechanisms of change and process research translates information provided by efficacy research to refine and enhance treatment implementation, and thus represents an integral component of the RPI model to bridge the research–practice divide.

**Stage IV: Effectiveness and Dissemination studies.** Although one of the advantages of RCTs is their internal validity and ability to establish efficacy, effectiveness research is important for evaluating the external validity of RCTs (for a cogent discussion of this issue, see Nathan, Stuart, & Dolan, 2000). Thus, researchers transport their treatments to alternative settings, looking toward key indicators such as feasibility, generalizability, effect size, and expected benefits across diverse populations in real-world settings. In addition to what is typically regarded as effectiveness research, we note that studies of dissemination and implementation of evidence-based treatments (e.g., Lochman et al., 2012, this issue; see also Gotham, 2004) play a crucial role in the integration of research and practice.

As one example of this type of work, this Special Section includes research by John Lochman and colleagues on treatment effectiveness, dissemination, and implementation of the Coping Power Program for youth behavior problems. Consistent with biomedical models, the ultimate goal of Level I Treatment Validation studies is to provide empirically based, cost-effective, and clinically useful interventions that are associated with a significant public health impact. To this end, Lochman et al.’s research is a paragon for transporting a treatment from the laboratory to alternative settings, assessing its effects, modifying the treatment based on feasibility and feedback, and testing mechanisms of the treatment in an effort to enhance both psychotherapist and client satisfaction. We see this work as an essential component of the translational model and, as such, an integral component of bridging the research–practice gap.

In addition to the excellent work of Lochman and colleagues, we also direct the reader to other examples of innovative approaches to treatment dissemination and implementation. Noteworthy are large-scale longitudinal studies regarding implementation of evidence-based treatments for children (Nakamura et al., 2011); large-scale dissemination studies with adolescents (Godley, Garner, Smith, Meyers, & Godley, 2011); and efforts conducted in Australia such as the Triple-P Positive Parenting program (Sanders, Turner, & Markie-Dadds, 2002) and the DVD/Internet-based Couple CARE programs (Halford, Moore, Wilson, Farrugia, & Dyer, 2004), among many others.

Lastly, it is important to recognize the bidirectional nature of the research–practice link in effectiveness and dissemination research and the need to foster a “working partnership between laboratories and the community” (Chorpita & Nakamura, 2004; p. 364). For example, with regard to training providers, training workshops alone are not sufficient to produce change (Herschell, Kolko, Baumann, & Davis, 2010; McHugh & Barlow, 2010; Smith-Hansen, Constantino, Piselli, & Remen, 2011), and adoption may occurs in stages that are similar to the stages of change model (i.e., readiness to change, Prochaska & DiClemente, 1982). Thus, to facilitate the adoption and adaptation of evidence-based interventions in community settings, alternative approaches (e.g., motivational interviewing, Hershenberg & Malik, 2008), active learning, including coaching and feedback (Beidas & Kendall, 2010), and attention to therapist style, epistemology, and other characteristics (Jacobs, Kissil, & Davey, 2010) may need to be built into training. Overall, research on effectiveness and dissemination dovetails with efficacy research to provide a more comprehensive picture of how to enhance change among clients and decrease the research–practice gap.

**Level 2 Translation: Training Clinicians in EBP in Psychology**

Focusing on student trainees, for whom the acquisition of new information and therapeutic skills is pivotal, may be the ideal starting point for integrating research and practice. To that end, the article by Hershenberg et al. (this issue) adopts an EBP framework to discuss issues related to three important aspects of predoctoral training; namely, the Curriculum (2a), the Practicum (2b), and Supervision (2c).
An empirically informed curriculum may include basic research (e.g., emotion, behavioral learning principles, interpersonal relationships, cognitive research on biased processing, neurological basis of behavior, research methods, etc.), an emphasis on life span developmental psychopathology, incorporation of empirically supported “relationships” (Norcross, 2002), and empirically supported “principles of change” (Castonguay & Beutler, 2006), along with the standard courses on experimental psychopathology, assessment, therapy, and so forth. In addition, we believe that it is important to integrate the study of potentially harmful treatments (Barlow, 2010; Castonguay, Boswell, Constantino, Goldfried, & Hill, 2010; Lilienfeld, 2007) into an EBP curriculum. Next, seen through an EBP lens, Hershenberg et al. (2012) suggest that, to merge the gap between research and practice in clinical practice, programs should instill in trainees an orientation toward therapeutic practice that is similar to the scientific curiosity and inquiry process adopted in psychotherapy research. In this vein then, practica should include client-centered research; specifically, trainees should learn to systematically collect outcome data and use such data to enhance the effectiveness of their treatments and in clinical research (Lambert et al., 2003; Ogles, Lambert, & Fields, 2002; Woody, Detweiler-Bedell, Teachman, & O’Hearn, 2002). To this end, we believe that practicum training programs should develop the infrastructure to collect ongoing assessment data. Indeed, the more that psychology training clinics share in data collection efforts, the more we can learn about trainee and client variables that may be associated with client outcomes, which can then feed back to the basic and Level I research. Last, evidence-based supervision is a growing topic in the literature (e.g., Falander et al., 2004; the journal Training and Education in Professional Psychology) and Hershengberg et al. note the importance of individual supervisors’ modeling behaviors consistent with RPI.

**Level 3 Translation: Assessment of Clinical Utility and Feedback to Research**

This level of translation incorporates empirical efforts to evaluate the overall clinical utility of efficacious treatments as reflected by the social or public health impact of specific treatments, as well as their “reach” (e.g., what percent of the clinical population receives a specific EST for a targeted problem; 3a. Impact/ “Reach” analyses; and 3b. Cost-effectiveness analyses). Similarly, analyses about the cost-effectiveness of implementing and adopting an EST (e.g., monetary and nonmonetary costs related to training, adaptation, dissemination) are critical to establish feasibility and identify barriers for individuals seeking to adopt ESTs in community-based settings. For a comprehensive discussion about research practices for cost-effectiveness analysis within the context of clinical trials, we refer the reader to the report by the Task Force of the International Society for Pharmacoeconomics and Outcomes Research (Ramsey et al., 2005). In discussing the clinical utility of treatments, the American Psychological Association (2002) Criteria for Evaluating Treatment Guidelines also offer specific recommendations that include “consideration of costs” (Criterion 12.0) in evaluating the efficaciousness of treatments available; thus, these criteria provide an additional framework for translating the “current body of knowledge into actual clinical practice” (p. 1052).

In addition to the above considerations, it is necessary to create pathways to transmit the invaluable information provided by different stakeholders (e.g., clients, providers, third-party payers) back to researchers (3c). Indeed, the tone of this Special Section is that the gap between science and practice can only be bridged if we create an infrastructure with multiple, bidirectional lanes. Essentially, we believe that therapists need feedback from the psychotherapists who are not only routinely conducting the treatment, but are also expert observers of clinical phenomena; accordingly, the goal is to provide methodologies to quantify those observations in easy, reliable, and valid ways (Westen & Shedler, 1999a, 1999b).

One such vehicle is to collect systematic outcome data in clinical settings and private practices through commercial outcome measurement packages that provide the therapists with information about clinically significant changes in their clients. Work by Lambert (this issue) and Kraus and colleagues (Youn et al., this issue) has been integral in promoting these advancements. In both papers included in this Special Section, the authors delineate the logistics and advantages of utilizing routine psychotherapy practice with the use of systematic, ongoing assessment. Lambert in particular highlights the use of the Outcome Questionnaire-45 (OQ-45) to identify clients who are responding poorly and those who make sudden gains; provide graphical representations of client change over time; and direct the therapist to resources when clients are showing negative change. Complementing this piece, Youn et al. underscore the advantage of the Treatment Outcome Package (TOP) to enhance client-therapist communication; identify both positive and negative change in clients across domains of function; identify areas of treatment strength for psychotherapists; and develop referrals based on therapists’ relative strengths. These tools are directly tied to integrating research and practice, and Lambert (2012, this issue), and Youn et al. (2012, this issue) advocate making use of this systematic data collection to formally test research hypotheses. Notably, both the Outcome Questionnaire-45 and Treatment Outcome Package are reliable and valid measures that have been designed for use in practice, with both the psychotherapist and client consumers in the forefront. We also refer the reader to the Partners for Change Outcome Management System (Miller, Duncan, Sorrell, & Brown, 2005), which represents another empirically supported approach to tracking treatment progress and the therapeutic alliance over time.

Having psychotherapists provide data based on their experience is another helpful vehicle to provide feedback to researchers from clinicians. For example, Goldfried (2011) has implemented feedback surveys to provide therapists with a mechanism to report their clinical experiences using ESTs for particular disorders to the research community. These clinical data provide a rich source for hypothesis testing regarding barriers to treatment effectiveness and, ultimately, can be used to modify existing treatments and/or to develop new treatments that address these barriers. Jeffrey Magnavita’s United Psychotherapy Project (Magnavita, 2008) also collects information from clinicians, catalyze their psychotherapeutic techniques and methods in an effort to provide a comprehensive and organized database that cuts across theoretical orientations. Another innovative methodology includes collecting data from expert psychotherapists regarding their approaches to specific clinical problems (e.g., Eubanks-Carter, Burckell, & Goldfried, 2010).
Finally, Practice Research Networks (PRNs) can also provide valuable information from psychotherapists to researchers. For example, in collaboration with the Pennsylvania Psychological Association (PPA), Borkovec, Ragusea and their colleagues developed the Practice Research Network (PPA-PRN), which includes a team of researchers and psychotherapists who collaborate to collect outcome data in applied settings (Borkovec, Echemendia, Ragusea, & Ruiz, 2001). The PPA-PRN has completed two studies to date: the first evaluated the feasibility of conducting sound research within outpatient settings using therapists’ reports and a core outcome battery (the COMPASS system based on the work of Kenneth Howard; see Sperry, Brill, Howard, & Grissom, 1996); the second evaluated psychotherapists’ experience of their active participation in these studies and provided pre–post outcome data on a very large client population within this state-wide structure (Castonguay, 2011). Related, Western and colleagues have also used PRNs to investigate issues related to assessment and diagnostic classification of Axis I and II disorders (e.g., Blagov, Bradley, & Westen, 2007; Thompson-Brenner & Westen, 2005).

We are excited by these systematic examples of ways to communicate from practice settings to researchers; it is our hope that researchers will continue to develop new methodologies, as well as extend these existing methodologies to increase the number of participating psychotherapists in the acquisition of clinically valid data. In addition to reaching out to psychotherapists, it will be important to continue to build a research infrastructure that incorporates data from the consumers of these treatments—namely the clients—such as data regarding client satisfaction and the acceptability and credibility of the interventions (e.g., Borkovec & Nau, 1972) to help establish a liaison between them and the researchers.

**Level 4 Translation: Cross-Level Integrative Research and Communication**

The fourth level in this RPI model concerns the integration of the wealth of information provided by all three levels of translation. In addition to new waves of basic research, this integration may lead to new controlled trials and innovative types of outcome research. In other words, as scientists in clinical psychology, our research efforts are conducted in the context of bootstrapping (Cronbach & Meehl, 1955), and it is this iterative and recursive process that we hope will continue to improve our interventions, as well as decrease the gap between clinical research and clinical practice.

Opportunities for research at this level of translation are abundant. Indeed, as humorously and cogently articulated by Wolfe (this issue, pp. 101–108), there are many ideas for RPI on which researchers and practitioners may actually agree, and where the field is already beginning to move. Examples include supplementing RCTs with controlled research conducted via PRNs, qualitative studies conducted by therapists, as well as including outcome variables that derive from more than one psychotherapeutic orientation. Other promising methodological advances include the use of single-case experimental designs (Kazdin, 1981), time-series experimentation as a research tool for clinical practice (Hayes, 1981), the inclusion of case studies within a mixed methods paradigm in clinical trials (Dattilio, Fishman, & Edwards, 2010; Howard, Krause, & Orlinsky, 1986), and the adoption of Cronbach’s (1975) “intensive local observation” approach as applied to clinical investigations (see Barlow, 1981), to name a few.

Furthermore, as underscored by the articles of Lambert (this issue) and Youn et al. (this issue), commercial outcome packages provide the therapist with feasible methods to collect data and innovative indices of change (e.g., recovery rates based on benchmarking techniques, indices of clinically significant deterioration in addition to positive change, and outcomes across several domains of functioning in addition to symptom reduction). Controlled outcome research could easily ensue from these data collected in outpatient settings and these methodologies could be added to the standard methodologies used in RCTs.

Wolfe (this issue) also suggests enhancing the dissemination of research findings to the clinical community with user-friendly summaries and easily accessible video archives. Importantly, in the course of his two-chair dialogue, we see that Wolfe’s ideas have practical behavioral implications and can hopefully lead toward attitudinal shifts on behalf of both the clinician and researcher, which we believe reflects the optimistic and collaborative tone of this Special Section.

Finally, we would like to note that Level 4 translation also includes the creation of new venues of communication among many stakeholders, especially clients, psychotherapists, researchers, providers from various disciplines (e.g., physicians, lawyers), third-party payers, patient advocates, and policymakers, among others. In addition to the PRNs mentioned earlier, Castonguay (2011) reports on the success of “working conferences” aimed at fostering communication and innovative connections among “different communities of knowledge seekers” (e.g., therapists and researchers of different clinical orientations and methodological expertise) (p. 127). These conferences foster productive debates around specific clinical issues and lead to sharing of knowledge and to consensus-based writings; in turn, they may spur new waves of research. Lastly, clinical grand rounds may be another way to foster a dialogue among different stakeholders and translate science into community outreach (see Kazak & Steele, 2011), as may be efforts to more directly reach the clients and their advocates through community-based presentations of innovations in treatment research.

**Conclusions**

The goal of this concluding piece was to summarize the existing series of articles within an overarching framework of translational research efforts that bridge the gap between research and practice. We have tried to make practical, feasible proposals for both psychotherapists and researchers to improve the next wave of RPI. Whether encouraging the systematic use of outcome assessment in routine clinical practice, or advocating inclusion of psychotherapists and client advocacy groups on the research design team (e.g., Sobell, 1996), we hope this Special Section has highlighted how the range of practice and research activities in which we participate can complement and extend one another.

**References**


